WHAT IS CLAIMED IS:

1. A method of base station operation in a CDMA (Code Division Multiple Access) communication system, comprising the steps of:

transmitting use state information of each physical packet channels and maximum available data rate information of the physical packet channel on channel state indication channel;

receiving, in the base station, information indicating that a mobile station has data to transmit and selects an unused physical packet channels, using an access preamble; and

transmitting an acquisition indicator signal for indicating an allowance of usage of the selected physical packet channel to the mobile station when the base station currently unused the selected physical packet channel.

2. The method as claimed in claim 1, wherein if one physical packet channel uses multi-code transmission, the maximum available data rate information includes information indicating the number of multi-codes to the mobile station according the multi-code usage.

3. The method as claimed in claim 1, wherein the maximum available data rate is a currently supportable maximum data rate on a physical packet channel in the base station.

4. The method as claimed in claim 1, wherein the physical packet channels are physical common packet channels.

5. The method as claimed in claim 1, wherein one frame of the acquisition indicator signal is comprised of a plurality of access slots, wherein the use status information of said physical packet channels and the maximum available data rate information are transmitted through a given number of unused bits out of the bits constituting the access slots.

6. The method as claimed in claim 5, wherein one frame of the acquisition indicator signal is comprised of 15 access slots.

7. The method as claimed in claim 6, wherein each one of said access slots is comprised of 32 bits for transmitting acquisition indicator signal in response to the access preamble and 8 bits for transmitting the use status information of the physical packet channels and the maximum available data rate information.

8. The method as claimed in claim 5, wherein the number of the use status information bits of the physical packet channels is determined depending on the total number of the physical packet channels which are presently used or may be used in the base station.

9. The method as claimed in claim 5, wherein the use status information of said physical packet channels is transmitted through at least one of the plurality of access slots, and the maximum available data rate information is transmitted through remaining access slots.

10. The method as claimed in claim 5, wherein the maximum available data rate information is repeatedly transmitted at predetermined times through at least one of the plurality of access slots, and the use status information of said physical packet channels is repeatedly transmitted at predetermined times through remaining access slots.

11. The method as claimed in claim 10, wherein the number of access slots for transmitting the maximum available data rate information is determined depending on a number indicating a repeating of the maximum available data rate information.

12. The method as claimed in claim 5, wherein the use status information of said physical packet channels and the maximum available data rate information are distributed to a predetermined number of unused bits out of the bits constituting the access slots.

13. The method as claimed in claim 5, wherein the use status information of said physical packet channels is transmitted one time during one

access frame period and the maximum available data rate information is repeatedly transmitted at the access frame period.

14. The method as claimed in claim 5, wherein the maximum available data rate information is transmitted through the bits in predetermined positions out of predetermined unused bits among the bits constituting the access slots, and the use status information of said physical packet channels is transmitted through remaining unused bits.

15. The method as claimed in claim 1, further comprising the steps of:

applying the number of bit (i) as to available maximum data transmission rate of the following equation 32 to obtain information as to available maximum data transmission rate;

applying the total number of the physical packet channel (j) to the following equation 33 to obtain state information for the individual physical packet channel;

applying intermediate values (i,j) predetermined and the total number of bit for the CSICH (Channel Status Indicator Channel) to the following equation 34 to thereby determine the number of repetition (R);

dividing the intermediate value (j) by the number of repetition (R) to obtain an intermediate value (r) and applying the intermediate values (j.r.R) to the following equation 35, thereby obtain an intermediate value (s);

applying the obtained intermediate value (i.r.s.R) to the following equations 36 and 37 to determine the position of the CSICH and writing the information as to available maximum data transmission rate to the determined position; and

applying the obtained intermediate values (I,r,j,s,R) to the following equations 38 and 39 to determine the position of the CSICH and writing state information for the individual physical packet channel to the determined position.

[Equation 32]

$$d_i = \begin{cases} 0 \\ 1 \end{cases} \quad i = 0,1,\ldots,I-1$$

[Equation 33]

$$p_j = \begin{cases} 0 \\ 1 \end{cases} \quad j = 0,1,\ldots,J-1$$

[Equation 34]

$$R = \left\lfloor \frac{(N-J)}{I} \right\rfloor$$

[Equation 35]

$$s = J - r * R$$

[Equation 36]

$$SI_{l(I+r+l)+i} = d_i$$
$$0 \le i \le I\text{-}l, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 37]

$$SI_{s(I+r+l)+(l-s)*(I+r)+i} = d_i$$
$$0 \le i \le I\text{-}l, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 38]

$$SI_{l(I+r+l)+I+j} = p_{l(r+l)+j}$$
$$0 \le j \le r, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 39]

$$SI_{s(I+r+l)+(l-s)(I+r)+I+j} = p_{s(r+l)+(l-s)r+j}$$
$$0 \le j \le r\text{-}l, \quad l = s, s+1, \ldots, R\text{-}1$$

16. A method of base station operation in a CDMA (Code Division Multiple Access) communication system, comprising the steps of:

transmitting use status information of each physical packet channels and maximum available data rate information of currently unused physical packet channels on channel status indicator channel;

receiving, in the base station, information indicating that a mobile station has data to transmit and selects an desired data rate, using an access preamble; and

transmitting an acquisition indicator signal for indicating an allowance of usage of the desired data rate to the mobile station on a acquisition indicator channel when the base station can support the selected data rate.

17. The method as claimed in claim 14, wherein one frame of the acquisition indicator channel is comprised of a plurality of access slots, wherein the use status information of said physical packet channels and the maximum available data rate information are transmitted on an unused part out of the access slots.

18. The method as claimed in claim 15, wherein the use status information of said physical packet channels is transmitted one time during unused parts of the access slots in one access frame period and the maximum available data rate information is repeated based on a bit number of the use status information and transmitted at an remaining part of the unused access slots in one frame period.

19. The method as claimed in claim 16, further comprising the steps of:

applying the number of bit (i) as to available maximum data transmission rate of the following equation 32 to obtain information as to available maximum data transmission rate;

applying the total number of the physical packet channel (j) to the following equation 33 to obtain state information for the individual physical packet channel;

applying intermediate values (i,j) predetermined and the total number of bit for the CSICH (Channel Status Indicator Channel) to the following equation 34 to thereby determine the number of repetition (R);

dividing the intermediate value (j) by the number of repetition (R) to obtain an intermediate value (r) and applying the intermediate values (j.r.R) to the following equation 35, thereby obtain an intermediate value (s);

applying the obtained intermediate value (i.r.s.R) to the following equations 36 and 37 to determine the position of the CSICH and writing the information as to available maximum data transmission rate to the determined position; and

applying the obtained intermediate values (I,r,j,s,R) to the following equations 38 and 39 to determine the position of the CSICH and writing state information for the individual physical packet channel to the determined position.

[Equation 32]

$$d_i = \begin{cases} 0 \\ 1 \end{cases} \quad i = 0,1,\ldots,I-1$$

[Equation 33]

$$p_j = \begin{cases} 0 \\ 1 \end{cases} \quad j = 0,1,\ldots,J-1$$

[Equation 34]

$$R = \left\lfloor \frac{(N-J)}{I} \right\rfloor$$

[Equation 35]

$$s = J - r * R$$

[Equation 36]

$$SI_{l(I+r+l)+i} = d_i$$

$$0 \le i \le I\text{-}l, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 37]

$$SI_{s(I+r+l)+(l-s)*(I+r)+i} = d_i$$

$$0 \le i \le I\text{-}l, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 38]

$$SI_{l(I+r+l)+I+j} = p_{l(r+l)+j}$$

$$0 \le j \le r, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 39]

$$SI_{s(I+r+l)+(l-s)(I+r)+I+j} = p_{s(r+l)+(l-s)r+j}$$
$$0 \le j \le r-l, \quad l = s, s+1, \ldots, R-1$$

20. A method of mobile station operation in a CDMA mobile communication system, comprising the steps of:

receiving, in a mobile station, use status information of physical packet channels and maximum available data rate information through a acquisition indicator channel indicating acquisition of an access preamble from a base station; and

selecting an access preamble representing a desired data rate ;

transmitting to the base station the access preamble for requesting allocation of a physical packet channel which can support the desired data rate.

21. The method as claimed in claim 18, wherein if one physical packet channel uses multi-code transmission, the maximum available data rate information includes information indicating the number of multi-codes.

22. The method as claimed in claim 18, wherein the maximum available data rate is a currently supportable maximum data rate on a physical channel.

23. The method as claimed in claim 18, wherein the physical packet channels are common packet channels.

24. The method as claimed in claim 18, wherein one frame of the acquisition indicator channel is comprised of a plurality of access slots, wherein the use status information of said physical packet channels and the maximum available data rate information are transmitted through a given number of unused bits out of the bits constituting the access slots.

25. The method as claimed in claim 22, wherein one frame comprised of 15 access slots.

26. The method as claimed in claim 23, wherein each one of said access slots is comprised of 32 bits for transmitting access preamble acquisition indicator signal in response to the access preamble and 8 bits for transmitting the use status information of said physical packet channels and the maximum available data rate information.

27. The method as claimed in claim 22, wherein the number of the use status information bits of the physical packet channels is determined depending on the total number of the physical packet channels which are presently used or may be used in the base station.

28. The method as claimed in claim 22, wherein the use status information of said physical packet channel is transmitted through at least one of the plurality access slots of one access frame, and the maximum available data rate information is transmitted through remaining unused position of the access slots.

29. The method as claimed in claim 22, wherein the maximum available data rate information is repeatedly transmitted at predetermined times through unused bits in one access frame, and the use status information of physical packet channels is transmitted at one time through remaining unused position of the access frame.

30. The method as claimed in claim 22, wherein the use status information of said physical packet channels and the maximum available data rate information are distributed to a predetermined number of unused bits out of the bits constituting the access slots.

31. The method as claimed in claim 22, wherein the use status information of said physical packet channels is transmitted over at least one frame and the maximum available data rate information is transmitted over at least one frame being different from said frame.

32. The method as claimed in claim 29, wherein the number of frames for transmitting the maximum available data rate information is determined

depending on a number indicating a repeating of the maximum available data rate information.

33. The method as claimed in claim 29, wherein the number of frames for transmitting the use status information of said physical packet channels is determined depending on the total number of the physical packet channels.

34. The method as claimed in claim 22, wherein the maximum available data rate information is transmitted through the bits in predetermined positions out of predetermined unused bits among the bits constituting the access slots, and the use status information of physical channel is transmitted through remaining unused bits.

35. The method as claimed in claim 20, further comprising the steps of:

applying the number of bit (i) as to available maximum data transmission rate of the following equation 32 to obtain information as to available maximum data transmission rate;

applying the total number of the physical packet channel (j) to the following equation 33 to obtain state information for the individual physical packet channel;

applying intermediate values (i,j) predetermined and the total number of bit for the CSICH (Channel Status Indicator Channel) to the following equation 34 to thereby determine the number of repetition (R);

dividing the intermediate value (j) by the number of repetition (R) to obtain an intermediate value (r) and applying the intermediate values (j.r.R) to the following equation 35, thereby obtain an intermediate value (s);

applying the obtained intermediate value (i.r.s.R) to the following equations 36 and 37 to determine the position of the CSICH and writing the information as to available maximum data transmission rate to the determined position; and

applying the obtained intermediate values (I,r,j,s,R) to the following equations 38 and 39 to determine the position of the CSICH and writing state information for the individual physical packet channel to the determined position.

[Equation 32]

$$d_i = \begin{cases} 0 \\ 1 \end{cases} \quad i = 0,1,\ldots,I-1$$

[Equation 33]

$$p_j = \begin{cases} 0 \\ 1 \end{cases} \quad j = 0,1,\ldots,J-1$$

[Equation 34]

$$R = \left\lfloor \frac{(N-J)}{I} \right\rfloor$$

[Equation 35]

$$s = J - r * R$$

[Equation 36]

$$SI_{l(I+r+1)+i} = d_i$$

$$0 \le i \le I\text{-}1, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 37]

$$SI_{s(I+r+1)+(l-s)*(I+r)+i} = d_i$$

$$0 \le i \le I\text{-}1, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 38]

$$SI_{l(I+r+1)+I+j} = p_{l(r+1)+j}$$

$$0 \le j \le r, \quad l = 0, 1, \ldots, s\text{-}1$$

[Equation 39]

$$SI_{s(I+r+1)+(l-s)(I+r)+I+j} = p_{s(r+1)+(l-s)r+j}$$

$$0 \le j \le r\text{-}1, \quad l = s, s+1, \ldots, R\text{-}1 \quad .$$